

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Section A Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at:

<https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Office at 605-773-3098 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

COMMITMENT B4: BALD EAGLE

Bald eagles are known to occur in this area.

Action Taken/Required:

If a nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the Environmental Office for an appropriate course of action.

COMMITMENT C: WATER SOURCE

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species waters within South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment to prevent and control the introduction and spread of invasive species into the project vicinity.

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

The Contractor will not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the SDDOT Environmental Office.

Action Taken/Required:

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Additional information and mapping of Aquatic Invasive Species in South Dakota can be accessed at: <http://sdleastwanted.com/maps/default.aspx>.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating "No Dumping Allowed".

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

State Historical Preservation Office (SHPO or THPO) concurrence has not been obtained for this project.

Action Taken/Required:

All earth disturbing activities require a cultural resource review prior to scheduling the pre-construction meeting. This work includes, but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view of which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office to determine an appropriate course of action.

The Contractor is responsible for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

SCOPE OF WORK

Contractor will furnish all necessary vehicles, equipment, supervision, labor, materials, tools, water, debris disposal and incidentals necessary to complete the work to the satisfaction of the Engineer. Work to be done consists of cleaning/sweeping bridge decks, adjacent approach slabs, and transverse joints located within the bridge deck and approach slabs. The cleaning/sweeping operation will consist of removing all dirt, mud, silt, sand, paper, rocks, cans, glass, dead animal carcasses, tire retreads, vehicle parts and other debris. Unforeseen conditions, such as weather, can bring unusual amounts of debris to bridge sites. Removal of all debris regardless of scope and magnitude is the responsibility of the Contractor.

Contractor will be required to provide specialized heavy equipment such as sweepers, haul trucks and air compressors to remove debris, sand, mud and silt from bridge sites as indicated in the Contract.

For each bridge site the Contractor will perform a cleaning/sweeping twice during the terms of this contract. The first cleaning/sweeping will be conducted during the months of April and May. The second cleaning/sweeping will be conducted during the months of September and October.

GENERAL REQUIREMENTS

Contractor will evaluate actual bridge site characteristics before submitting a bid. It is the intent of this Contract to provide for cleaning and sweeping of all bridge decks, adjacent approach slabs, and transverse joints located within the bridge deck and approach slabs within the areas described herein.

The TABLE OF BRIDGES (Attachment 1) contained within these plans provides the list of bridge sites that require cleaning/sweeping. This table also provides information on bridge length, width and size of approach slabs. Not all bridges contain approach slabs. The cover map(s) provide a general idea of bridge site locations.

Contractor will comply with all Federal, State, County and local regulations, including disposal of debris collected.

All work will be accomplished during daylight hours.

Equipment and vehicles will not be stored in the highway Right-of-Way.

Approach Slabs as defined for this contract are reinforced concrete slabs located at each end of the bridge deck. Approach slabs typically have curbs located along the edges of the slab. The length of approach slabs varies in length and in some cases, consist of 2 slabs. The end of an approach slab is typically defined by a wide joint of over 6 inches or 2 joints located with approximately 2 feet between the joints.

CLEANING SCHEDULE

The Contractor will provide the Engineer a cleaning schedule for the current week, no later than 10AM Monday. The Contractor will provide the Engineer a phone number to be able to contact the onsite Forman of the crew during working hours.

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

TRAFFIC CONTROL

For a 2 lane roadway with traffic in opposing directions, traffic control will be as per Standard Plate 634.23. As an alternate, the Contractor may use the traffic control plan MOBILE SWEEPING OPERATIONS ON A 2 LANE ROADWAY contained within this document.

For a 4 lane divided roadway, traffic control will be as per Standard Plate 634.64. As an alternate, the Contractor may use the traffic control plan MOBILE SWEEPING OPERATIONS ON DIVIDED 4-LANE ROADWAY contained within this document.

For a 4 lane undivided roadway, traffic control will be as per Standard Plate 634.47. On those roadways where there is a center raised median that requires sweeping, traffic control will be as per Standard Plate 634.48. As an alternate, the Contractor may use the traffic control plan MOBILE SWEEPING OPERATIONS ON DIVIDED 4-LANE ROADWAY contained within this document.

Vehicles and equipment working in traffic or alongside traffic will be equipped with a flashing amber light visible from all directions at a minimum distance of 1/2 mile. The amber light will be mounted on the uppermost part of the Contractor's vehicle. Lights must flash at 75 ±15 flashes per minute. The sweeper will have lights, meeting the aforementioned requirements, at the front and back of the equipment. Vehicle flasher/hazard lights are not acceptable.

The Contractor's equipment will be required to enter and leave the sites on Interstate only at interchanges. Crossing of the median will not be allowed.

SWEEPING REQUIREMENTS

Sweeping areas will include all curb lines along both sides of the bridge deck and approach slabs, or to the edge of the pavement or guardrail where no curbs exist, along all curbs on raised medians, and over all portions of painted medians. Contractor is responsible for sweeping from the marked white or yellow edge line to the edge of bridge deck or approach slab regardless of the width. If there are no marked white or yellow edge lines, a minimum width of 5 feet will be swept along the edges of the bridge deck or approach slab.

All refuse materials and debris will be collected.

Effort beyond a mechanical sweeper may be required to loosen harden and packed material on the surface and along the curb face.

Sweeping will be accomplished in the same direction as traffic flow at all times.

Contractor will make every reasonable effort to minimize streaks left by sweepers.

At least 2 passes of the sweeper will be made over areas that require sweeping. The total number of passes required will vary based upon the width of sweeping required and the width of the sweeper used.

Sweeping operations will extend at least 50 feet beyond both ends of the approach slab, or end of bridge deck if no approach slab is present. There should be no ridge or pile of material left on the roadway or shoulder surface at the end of the sweeping operations. This may require hand work under the guardrail.

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

JOINT CLEANING REQUIREMENTS

Transverse joint openings located on the bridge deck and approach slabs will be cleaned of debris with compressed air, or other methods approved by the Engineer. Joint cleaning will be accomplished at the same time as sweeping of the bridge deck and approach slabs. Debris will not be blown over the edge of the deck onto the underlying roadway or waterway channel. The entire length of the joint will be cleaned.

BRIDGE CLEANING EXCEPTIONS

The 2 bridges within the City of Watertown on US212 do not require cleaning.

BRIDGE CLEANING CONFLICTS

There are bridges that are scheduled for construction during the calendar year. This construction may conflict with the completion of 2 bridge cleaning. These potential conflicts are noted in The TABLE OF BRIDGES (Attachment 1) in the far-right column. It is anticipated that one cleaning can be accomplished on these bridges. Quantities for the project are based upon these conflict bridges being cleaned one time. The Contractor will work with the Engineer to determine what locations have conflicts at the time cleaning is planned.

The Contractor is advised there is a project PH 0010(138), PCN 06DU under contract to replace the median guardrail on I-29 at 8 Northbound and 8 Southbound bridge sites between MRM's 141 and 178.

DISPOSAL

All refuse materials and debris collected will become the property of the Contractor and will be properly disposed of.

NO "on road" storage or dumping will be permitted.

EQUIPMENT

All equipment will be adequately maintained both mechanically and visually, and will be fully operational during all sweeping operations.

All equipment will be properly registered and insured according to motor vehicles laws of the state of South Dakota.

All units will be clearly and prominently marked with Contractor's company name.

- AIR COMPRESSOR

Compressor will have a rated pressure of 100 psi with a minimum pressure level of 80 psi. Compressor will be capable of delivering a minimum of 180 CFM.

- SWEeper

Minimum width of main broom or pickup head will be 54 inches. Sweeper will utilize both left side and right side brooms for picking up debris. Sweeper will have an internal self-contained storage hopper. Storage hopper will be a minimum capacity of 4 Cubic Yards.

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

- **SWEeper BRUSH/BROOM REPLACEMENT**

Worn brushes and brooms will be replaced and adjusted to insure maximum efficiency.

- a. Six (6) inches on the gutter brushes;
- b. As required on trash direction brush;
- c. Six (6) inches on the main broom.

These will be minimum criteria and final determination will be on the effectiveness of all brushes and brooms.

- **ATTENUATOR**

Truck mounted or trailer attenuators may be utilized, provided attenuators conform to and are maintained in accordance with the requirements of Section 634.2 and Part 6 of the MUTCD for Category III traffic control devices.

DUST CONTROL

Contractor will use all reasonable methods to minimize dust emissions during the performance of this Contract. Contractor will not create dust in such a quantity to create a nuisance, danger, or impair visibility.

Spraying of water during sweeping operations may be required to control dust.

PERFORMANCE

Primary objectives of the cleaning/sweeping program are:

- Remove debris buildup to reduce infiltration of roadway deicers into concrete.
- Prevent debris from enter storm drains and bridge deck drains.
- Prevent debris from entering waterways.
- Maintain gutter flow lines free of debris for free flow of water.
- Maintain a state of cleanliness for safety and acceptable to travelers.

Sweeping will normally consist of a pass (or passes) over an area. Contractor will make as many passes or such extra effort as may be required to adequately clean the bridge deck and approach slabs. Obstructions such as accumulations of silt, compacted dirt, leaves and similar debris will be removed. Items such as small tree limbs, dead animal carcasses, tire retreads, vehicle parts and rocks may require removal prior to sweeping with a mechanical sweeper.

Inspections will be performed on a regular basis, as well as spot checks and response to complaints.

Engineer will decide adequacy of cleaning/sweeping.

In the event that the results of a cleaning/sweeping are considered to be unsatisfactory, Contractor will re-clean/sweep unsatisfactory area(s) at Contractor's expense within 10 days after notification.

SDDOT reserves the right to withhold payment for missed, incomplete or unsatisfactory sweeping performance.

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

DEFICIENT PERFORMANCE

Liquidated Damages will be applied to deficient performance and/or late completion.

Repeated instances of failure to perform will result in cancellation of the Contract.

RECORD KEEPING

Contractor will complete RECORD OF BRIDGE CLEANING (Attachment 2) contained within the contract. Contractor will document arrival time at each bridge site, start and finish time of sweeping operations, number of passes made with sweeper, and departure time from each bridge site. Payment for services will not be made until document is completed and submitted to Engineer. Recording keeping will be kept up to date at all times and records will be made available to Engineer at any time.

The Contractor may submit to the Area Engineer, other methods of documenting cleaning progress. The Contractor will submit alternate documenting methods a minimum of 1 week prior to the preconstruction meeting.

BASIS OF MEASUREMENT AND PAYMENT

All costs for equipment, materials, labor and incidentals to clean/sweep will be incidental to the contract unit price per site for MISCELLANEOUS WORK. A cleaning/sweeping during the months of April and/or May will constitute 1 site payment and the second cleaning/sweeping in September and/or October will constitute 1 site payment. The cost for disposal of all refuse materials and debris, including dump fees, will be included in the contract unit price per site for MISCELLANEOUS WORK.

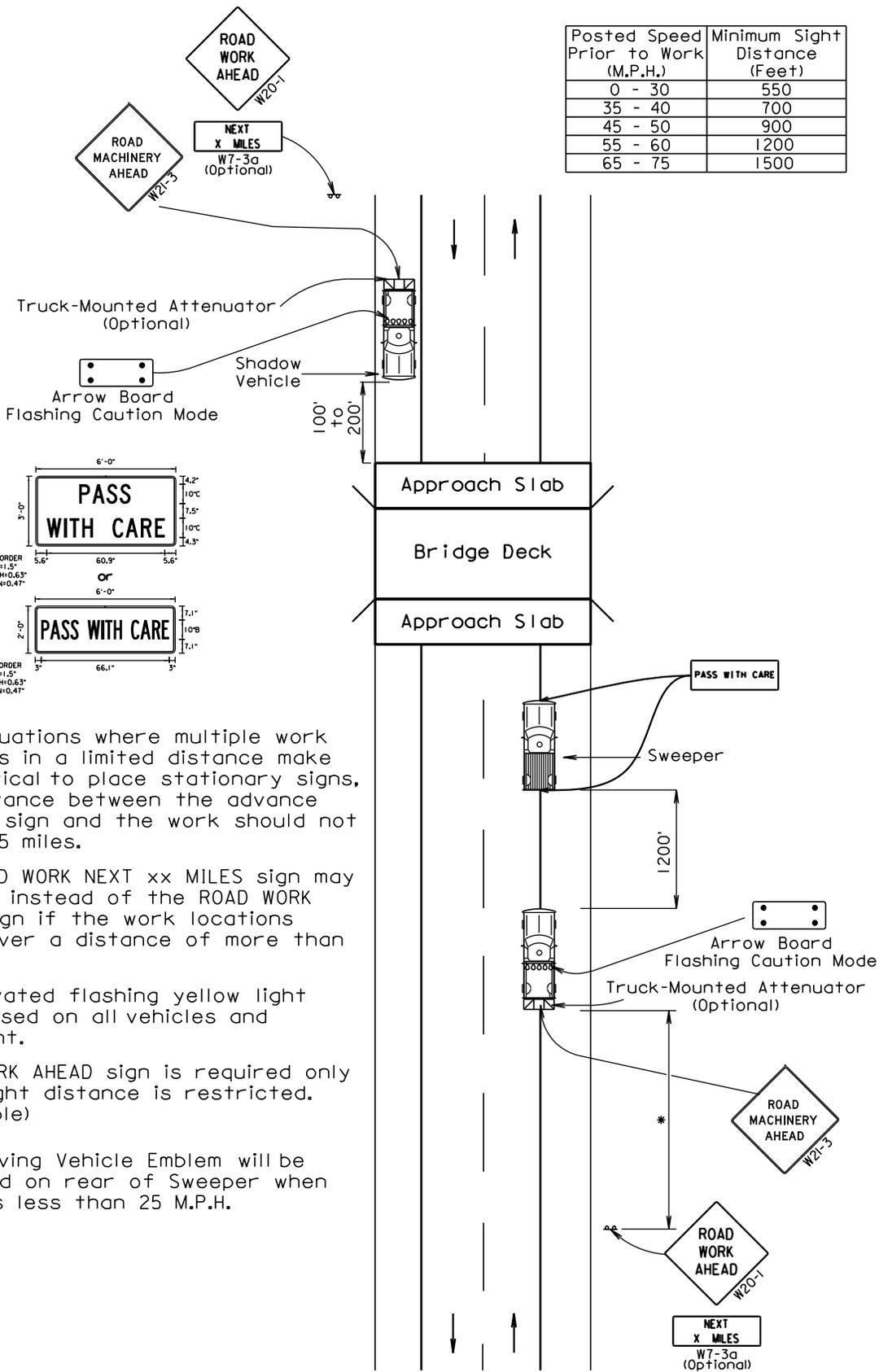
All costs for shadow vehicles, traffic control signs, arrow boards, flaggers, impact attenuators and other safety devices will be incidental to the contract lump sum price for TRAFFIC CONTROL, MISCELLANEOUS.

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

MOBILE SWEEPING OPERATIONS ON A 2-LANE ROADWAY

Posted Speed Prior to Work (M.P.H.)	Minimum Sight Distance (Feet)
0 - 30	550
35 - 40	700
45 - 50	900
55 - 60	1200
65 - 75	1500



BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

MOBILE SWEEPING OPERATIONS ON A DIVIDED 4-LANE ROADWAY

* In situations where multiple work locations in a limited distance make it practical to place stationary signs, the distance between the advance warning sign and the work should not exceed 5 miles.

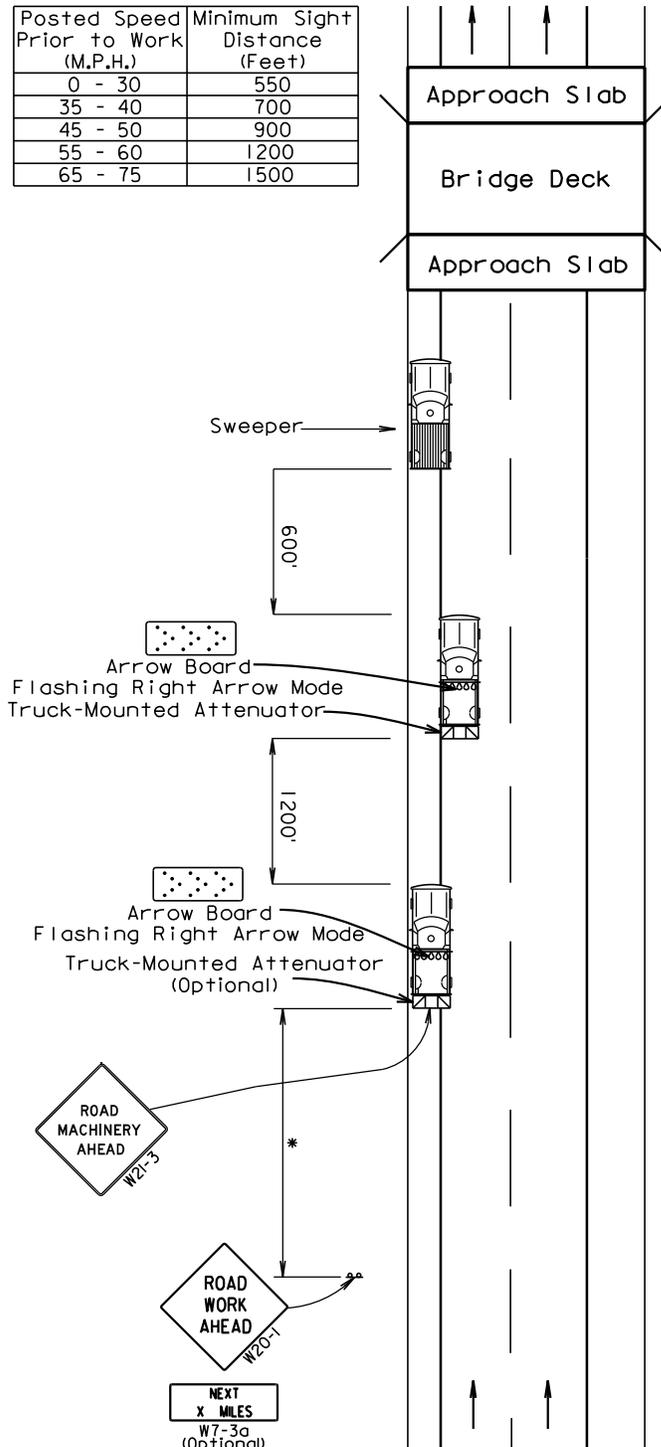
The ROAD WORK NEXT xx MILES sign may be used instead of the ROAD WORK AHEAD sign if the work locations occur over a distance of more than 2 miles.

An activated flashing yellow light will be used on all vehicles and equipment.

ROAD WORK AHEAD sign is required only when sight distance is restricted. (See Table)

Slow Moving Vehicle Emblem will be displayed on rear of Sweeper when speed is less than 25 M.P.H.

Posted Speed Prior to Work (M.P.H.)	Minimum Sight Distance (Feet)
0 - 30	550
35 - 40	700
45 - 50	900
55 - 60	1200
65 - 75	1500



BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

MOBILE SWEEPING OPERATIONS ON A DIVIDED 4-LANE ROADWAY

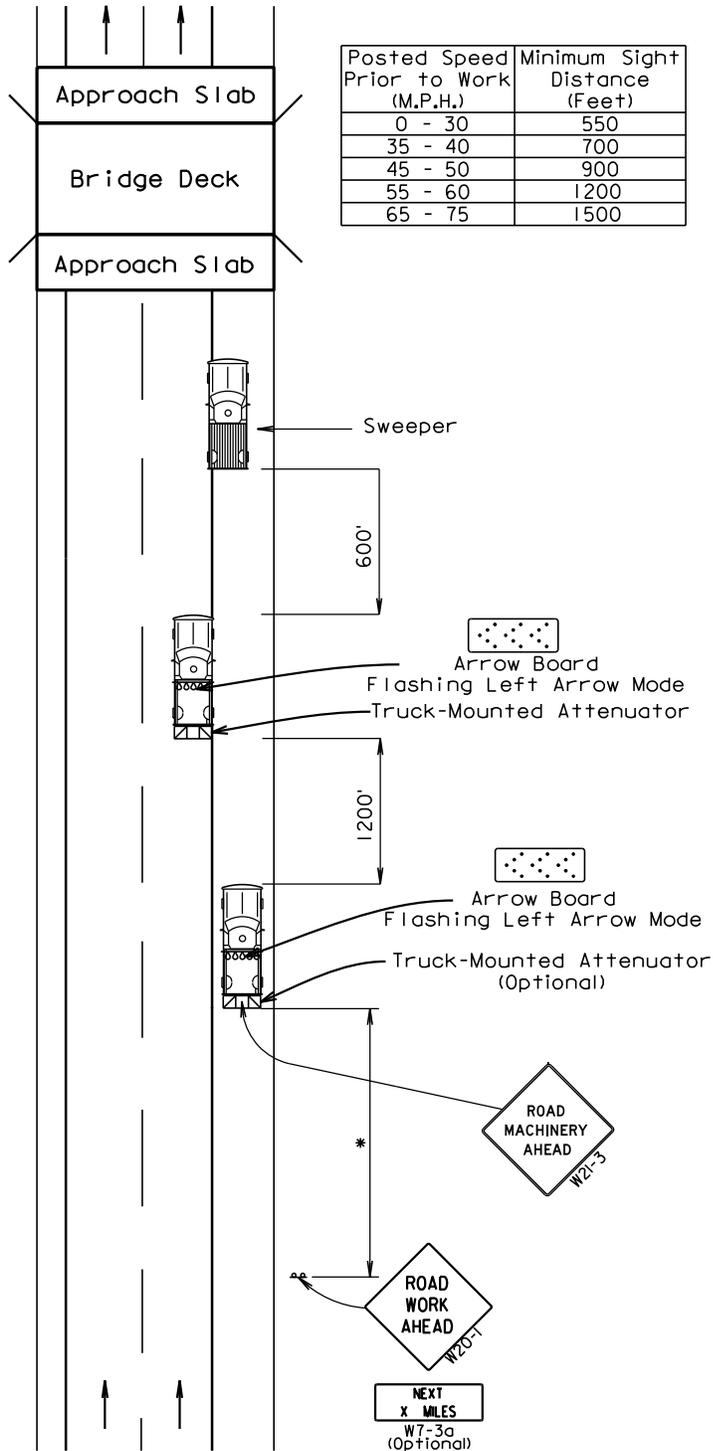
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BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45	500	25
50	500	50
55	750	50
60 - 65	1000	50

- Flagger
- Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

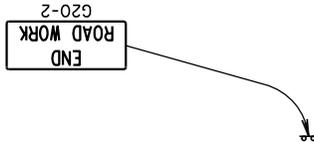
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices shall be drums or 42" cones.

Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

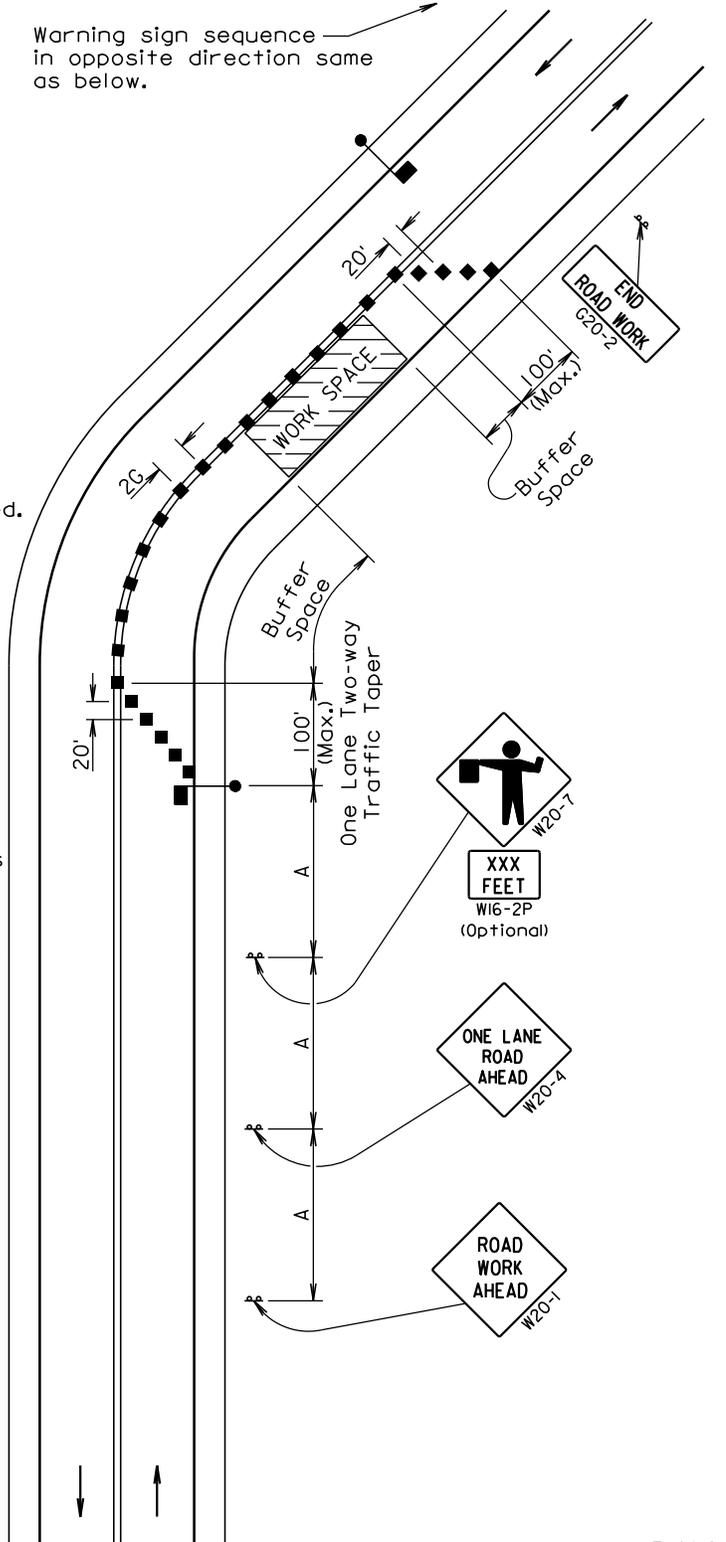


Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.

Warning sign sequence in opposite direction same as below.

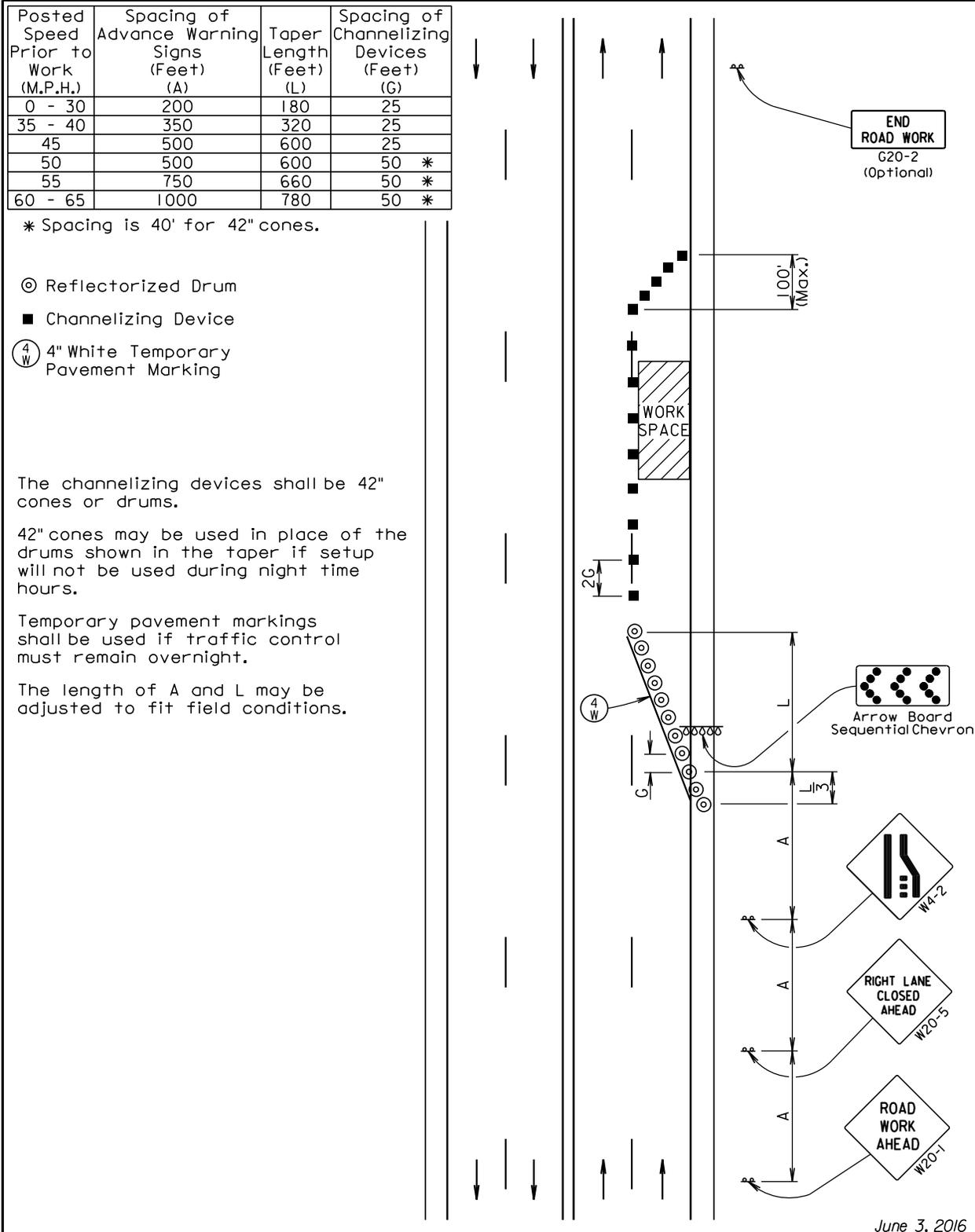


June 3, 2016

<p><i>Published Date: 1st Qtr. 2020</i></p>	S D D O T	<p>GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED</p>	<p>PLATE NUMBER 634.23</p> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> <p style="text-align: center; font-size: 0.8em;">Sheet 1 of 1</p>
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BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

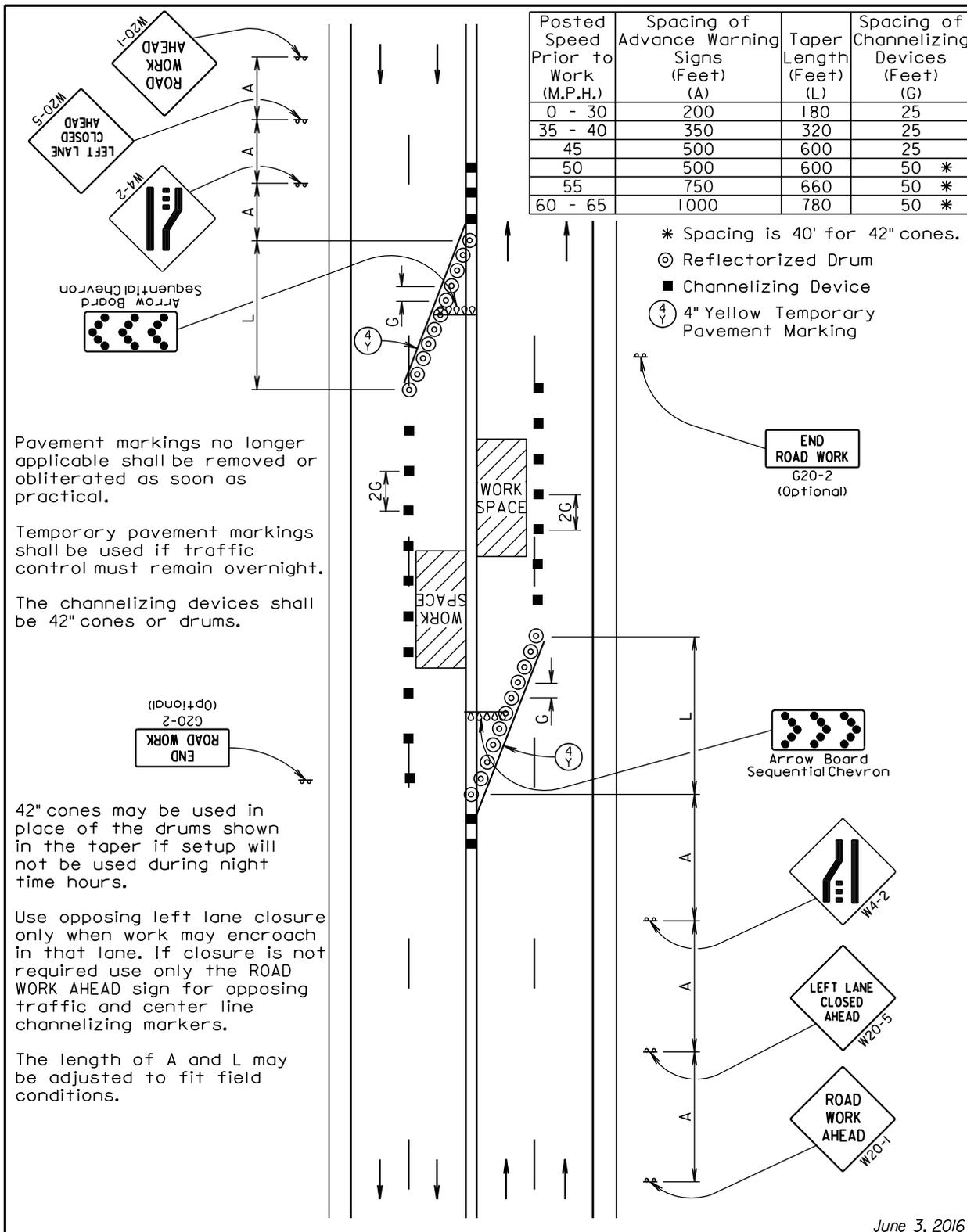


June 3, 2016

<p><i>Published Date: 1st Qtr. 2020</i></p>	<p>S D D O T</p>	<p>GUIDES FOR TRAFFIC CONTROL DEVICES 4-LANE UNDIVIDED, RIGHT LANE CLOSED</p>	<p>PLATE NUMBER 634.47</p> <hr/> <p style="text-align: center;"><i>Sheet 1 of 1</i></p>
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BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES



Pavement markings no longer applicable shall be removed or obliterated as soon as practical.

Temporary pavement markings shall be used if traffic control must remain overnight.

The channelizing devices shall be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

Use opposing left lane closure only when work may encroach in that lane. If closure is not required use only the ROAD WORK AHEAD sign for opposing traffic and center line channelizing markers.

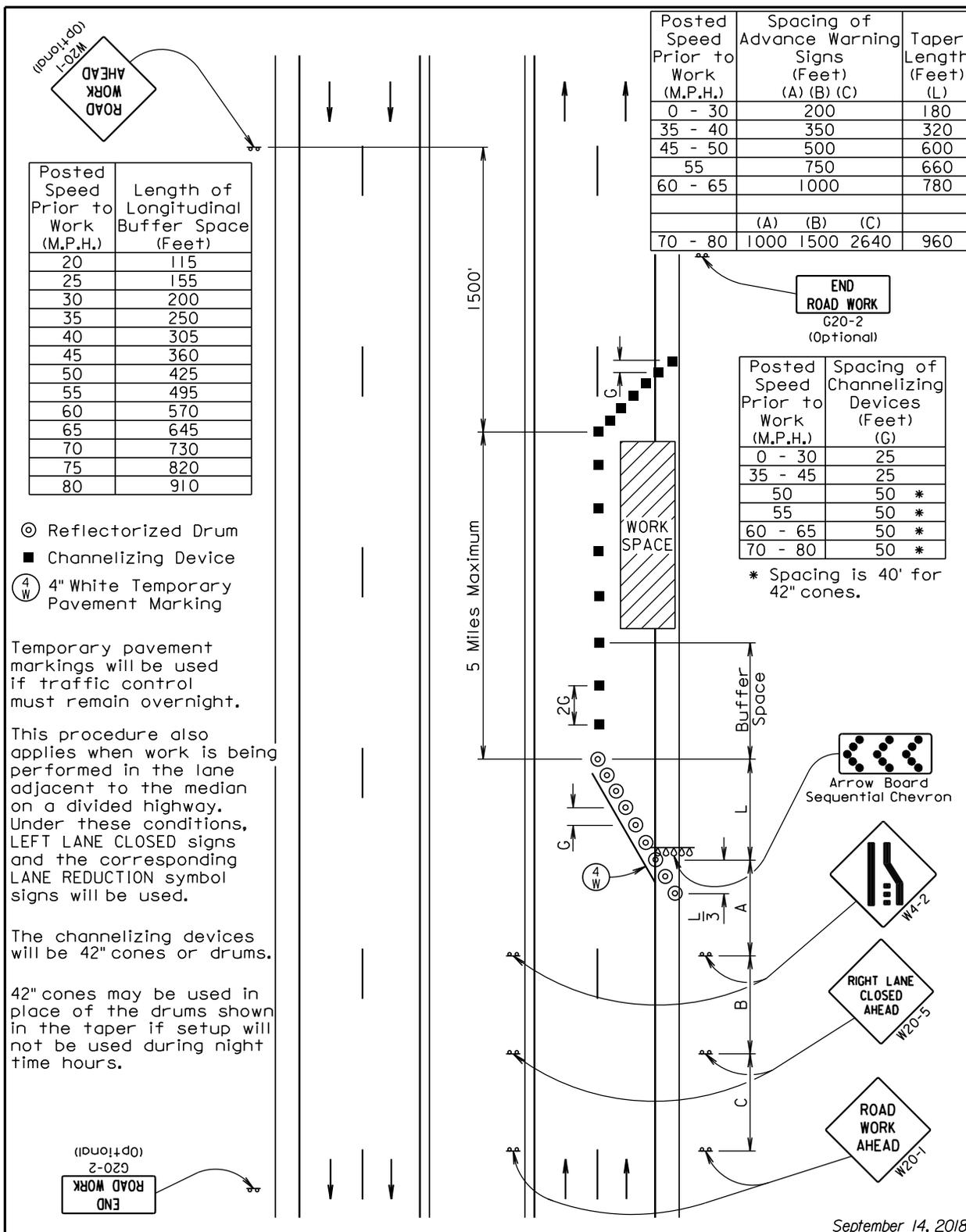
The length of A and L may be adjusted to fit field conditions.

June 3, 2016

<p><i>Published Date: 1st Qtr. 2020</i></p>	<p>S D D O T</p>	<p>GUIDES FOR TRAFFIC CONTROL DEVICES 4-LANE UNDIVIDED, LEFT LANE CLOSED</p>	<p>PLATE NUMBER 634.48</p>
			<p><i>Sheet 1 of 1</i></p>

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES



September 14, 2018

TABLE OF BRIDGES

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

Route	MRM	Structure Number	Location	Structure Length (Ft)	Bridge Roadway Width (Ft)	Deck Area (SF)	Skew Angle	Approach Quantity (SF)	Approach Joint Quantity (LF)	Deck Joint Quantity (LF)
I-29 N	121.83	51-066-030	7.0 N of SD 32 & I-29 Interchange	119	38	4522	0	1635	80	
I-29 S	121.83	51-065-030	7.0 N of SD 32 & I-29 Interchange	119	38	4522	0	1635	80	
I-29 N	123.84	51-066-010	1.0 S of Brooking County Line	398.33	32	12747	0	1387	68	
I-29 S	123.84	51-065-010	1.0 S of Brooking County Line	398.33	32	12747	0	1387	68	
I-29	125.8	06-185-230	1.0 N of Moody County Line	254	30	7620	0			64
I-29 N	127.05	06-185-218	2.3 N of Moody County Line	151.5	30	4545	0	1337	64	
I-29 S	127.05	06-184-218	2.2 N of Moody County Line	151.5	30	4545	0	1337	64	
I-29	129.8	06-185-190	3.0 S of US 14 & I-29 Interchange	254	28	7112	0			*
I-29 N	131.89	06-185-169	0.9 S of US 14 & I-29 Interchange	153.1	30	4593	17.68	1312	64	
I-29 S	131.89	06-184-169	0.9 S of US14 & I-29 Interchange	153.1	30	4593	17.68	1312	68	
I-29 N	134.94	06-185-139	1.1 N of US 14 Bypass	128.5	38	4883	0	1633	80	
I-29 S	134.94	06-184-139	1.1 N of US 14 Bypass	128.5	38	4883	0	1633	80	
I-29	135.81	06-185-130	2.0 N of US 14 Bypass	283	32	9056	0			68
I-29	137.79	06-185-110	3.0 S of SD 30 & I-29 Interchange	279	36	10044	0			78
I-29 N	141.45	06-185-074	0.6 N of SD 30 & I-29 Interchange	151.81	38	5769	30	2159	80	
I-29 S	141.45	06-184-074	0.6 N of SD 30 & I-29 Interchange	151.81	38	5769	30	2159	80	
I-29 N	143.8	06-185-050	3.0 N of SD 30 & I-29 Interchange	119	38	4522	0	1633	80	
I-29 S	143.8	06-184-050	3.0 N of SD 30 & I-29 Interchange	119	38	4522	0	1633	80	
I-29 N	144.44	06-185-044	4.4 S of Deuel County Line	73.5	38	2793	0	1633	80	
I-29 S	144.44	06-184-044	4.4 S of Deuel County Line	73.5	38	2793	0	1633	80	
I-29 N	145.85	06-185-031	3.1 S of Deuel County Line	86.81	38	3299	30	2159	80	
I-29 S	145.85	06-184-031	3.1 S of Deuel County Line	86.81	38	3299	30	2159	80	
I-29 N	147.8	06-185-010	1.0 S of Deuel County Line	119	38	4522	0	1633	80	

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

Attachment 1

TABLE OF BRIDGES

Route	MRM	Structure Number	Location	Structure Length (Ft)	Bridge Roadway Width (Ft)	Deck Area (SF)	Skew Angle	Approach Quantity (SF)	Approach Joint Quantity (LF)	Deck Joint Quantity (LF)
I-29 S	147.8	06-184-010	1.0 S of Deuel County Line	119	38	4522	0	1633	80	
I-29 N	151.85	20-061-271	0.9 N of SD 28 & I-29 Interchange	137.5	38	5225	0	1635	80	
I-29 S	151.85	20-060-271	0.9 N of SD 28 & I-29 Interchange	137.5	38	5225	0	1635	80	
I-29 N	154.5	20-050-248	3.5 NW of SD 28 & I-29 Interchange	157.21	38	5974	40	2584		54
I-29 S	154.5	20-049-248	3.5 NW of SD 28 & I-29 Interchange	157.21	38	5974	40	2584		54
I-29 N	157.63	20-035-220	6.9 NW of SD 28 & I-29 Interchange	135.83	38	5162	28.25	2094	80	
I-29 S	157.63	20-034-220	6.9 NW of SD 28 & I-29 Interchange	135.83	38	5162	28.25	2094	80	
I-29 N	158.74	20-030-211	6.0 SE of SD 22 & I-29 Interchange	186.7	38	7095	40	2583		54
I-29 S	158.74	20-029-211	6.0 SE of SD 22 & I-29 Interchange	170.71	38	6487	40	2635		54
I-29 N	159.16	20-028-207	5.5 SE of SD 22 & I-29 Interchange	233	38	8854	0	1635	80	
I-29 S	159.21	20-027-207	5.5 SE of SD 22 & I-29 Interchange	233	38	8854	0	1635	80	
I-29 N	162.1	20-015-180	2.5 SE of SD 22 & I-29 Interchange	138.73	38	5272	23.55	1704	80	
I-29 S	162.15	20-014-180	2.5 SE of SD 22 & I-29 Interchange	138.73	38	5272	23.55	1971	80	
I-29 N	164.58	29-300-040	SD 22 & I-29 Interchange	260.67	38	9905	45	2875	40	58
I-29 S	164.65	29-299-040	SD 22 & I-29 Interchange	260.67	38	9905	45	2875	40	58
I-29	167.4	29-280-020	2.8 NW of SD 22 & I-29 Interchange	425.67	32	13621	45	2875		99
I-29 N	168.59	29-272-012	4.0 NW of SD 22 & I-29 Interchange	183	38	6954	0	1633	80	
I-29 S	168.59	29-271-012	4.0 NW of SD 22 & I-29 Interchange	183	38	6954	0	1594	80	
I-29 N	170.23	29-261-000	Hamlin/Codington County Line	182.21	38	6924	40	2611	40	53
I-29 S	170.23	29-260-000	Hamlin/Codington County Line	182.21	38	6924	40	2583	40	54
I-29	173.02	15-240-220	2.9 N of Hamlin County Line	417.67	32	13365	45	2942		99
I-29 N	175.93	15-220-199	2.3 SE of US 212 & I-29 Interchange	174.67	38	6637	45	2770	40	58
I-29 S	175.93	15-220-200	2.3 SE of US 212 & I-29 Interchange	174.67	38	6637	45	2873	40	58

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

Attachment 1

TABLE OF BRIDGES

Route	MRM	Structure Number	Location	Structure Length (Ft)	Bridge Roadway Width (Ft)	Deck Area (SF)	Skew Angle	Approach Quantity (SF)	Approach Joint Quantity (LF)	Deck Joint Quantity (LF)
I-29 N	177.96	15-215-180	US 212 & I-29 Interchange	308	38	11704	0	1635		82
I-29 S	177.96	15-214-180	US 212 & I-29 Interchange	308	38	11704	0	1635		82
I-29 N	179.64	15-215-163	1.7 N of US 212 & I-29 Interchange	223	38	8474	0	1635	82	
I-29 S	179.64	15-214-163	1.7 N of US 212 & I-29 Interchange	223	38	8474	0	1635	82	
I-29	183.94	15-215-120	6.0 N of US 212 & I-29 Interchange	295	32	9440	0	1389		69
I-29 N	185.95	15-216-100	8.0 N of US 212 & I-29 Interchange	126	38	4788	0	1633	80	
I-29 S	185.95	15-215-100	8.0 N of US 212 & I-29 Interchange	126	38	4788	0	1633	80	
I-29 N	188.17	15-216-078	4.8 S of SD 20 & I-29 Interchange	529	40	21160	0	1715	84	86
I-29 S	188.17	15-215-078	4.8 S of SD 20 & I-29 Interchange	454	40	18160	0	1715	84	86
I-29	189	15-215-070	4.0 S of SD 20 & I-29 Interchange	296.5	32	9488	0	2372	69	69
I-29 N	197.96	26-086-100	2.0 N of Codington County Line	119	40	4760	0	1715	84	
I-29 S	197.96	26-085-100	2.0 N of Codington County Line	119	40	4760	0	1715	84	
I-29 N	201.05	26-086-070	6.2 S of US 12 & I-29 Interchange	132	40	5280	0	1715	84	
I-29 S	201.05	26-085-070	6.2 S of US 12 & I-29 Interchange	132	40	5280	0	1715	84	
I-29 N	204.06	26-085-040	2.0 S of Roberts County Line	119	40	4760	0	1715	84	
I-29 S	204.06	26-084-040	2.0 S of Roberts County Line	119	40	4760	0	1715	84	
I-29	206.08	55-085-440	Grant/Roberts County Line	293	32	9376	0	2372	68	70
I-29 N	206.82	55-085-433	0.6 S of US 12 & I-29 Interchange	164.1	40	6564	18.23	1876	84	
I-29 S	206.82	55-084-433	0.6 S of US 12 & I-29 Interchange	164.1	40	6564	18.23	1876	84	
I-29 N	212.24	55-090-380	1.6 SW of SD 15 & I-29 Interchange	291	40	11640	48.32	4017		65
I-29 S	212.24	55-089-380	1.6 SW of SD 15 & I-29 Interchange	281	40	11240	48.32	4017		65
I-29 N	215.79	55-109-350	1.9 NE of SD 15 & I-29 Interchange	99.52	40	3981	7.3	1564		
I-29 S	215.79	55-108-350	1.9 NE of SD 15 & I-29 Interchange	99.52	40	3981	7.3	1564	84	

TABLE OF BRIDGES

Route	MRM	Structure Number	Location	Structure Length (Ft)	Bridge Roadway Width (Ft)	Deck Area (SF)	Skew Angle	Approach Quantity (SF)	Approach Joint Quantity (LF)	Deck Joint Quantity (LF)	Notes
I-29	218	55-115-330	4.0 N of SD 15 & I-29 Interchange	292.25	32	9352	0	2372		70	
I-29	222.02	55-115-290	2.0 S of Peever Interchange	292.25	32	9352	0	2372		70	
I-29 N	224.02	55-116-270	Peever Interchange	128	40	5120	0	1715	84		
I-29 S	224.02	55-115-270	Peever Interchange	128	40	5120	0	1715	84		
I-29 N	225.38	55-116-256	1.4 N of Peever Interchange	93.6	40	3744	40	2779	84		
I-29 S	225.38	55-115-256	1.4 NW of Peever	93.6	40	3744	40	2779	84		
I-29 N	225.78	55-115-252	1.8 NW of Peever	93.6	40	3744	40	2779	84		
I-29 S	225.78	55-114-252	1.8 NW of Peever	93.6	40	3744	40	2779	84		
I-29 N	226.84	55-115-241	5.1 S of SD 10 & I-29 Interchange	137.04	40	5482	10	1607	84		
I-29 S	226.84	55-114-241	5.1 S of SD 10 & I-29 Interchange	137.04	40	5482	10	1607	84		
I-29	229.03	55-115-220	3.0 S of SD 10 & I-29 Interchange	292	36	10512	0	1551		78	
I-29 N	232.76	55-119-183	0.8 N of SD 10 & I-29 Interchange	146.54	40	5862	15	3096	84		
I-29 S	232.76	55-118-183	0.8 N of SD 10 & I-29 Interchange	146.54	40	5862	15	3096	84		
I-29	234.11	55-124-170	2.0 N of SD 10 & I-29 Interchange	330.1	32	10563	18.15	2423	68		
I-29 N	237.42	55-140-140	5.5 NE of SD 10 & I-29 Interchange	80	40	3200	0	1715	84		
I-29 S	237.42	55-139-140	5.5 NE of SD 10 & I-29 Interchange	80	40	3200	0	1715	84		
I-29	238.51	55-144-130	6.5 NE of SD 10 & I-29 Interchange	354.25	32	11336	26.97	2764			
I-29 N	242.02	55-161-100	4.4 S of SD 127 & I-29 Interchange	139.29	40	5572	29.17	2901	84		*
I-29 S	242.02	55-160-100	4.4 S of SD 127 & I-29 Interchange	139.29	40	5572	29.17	2901	84		*
I-29 N	246.44	55-176-060	SD 127 & I-29 Interchange	221.1	40	8844	17.73	1817	84		*
I-29 S	246.44	55-175-060	SD 127 & I-29 Interchange	221.1	40	8844	17.73	1817	84		*
I-29 N	247.03	55-176-055	0.5 N of SD 127 & I-29 Interchange	140	44	6160	0	1879	92		*
I-29 S	247.03	55-175-055	0.5 N of SD 127 & I-29 Interchange	140	40	5600	0	1715	84		*

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

Attachment 1

TABLE OF BRIDGES

Route	MRM	Structure Number	Location	Structure Length (Ft)	Bridge Roadway Width (Ft)	Deck Area (SF)	Skew Angle	Approach Quantity (SF)	Approach Joint Quantity (LF)	Deck Joint Quantity (LF)	Count
I-29	248.38	55-175-040	2.0 N of SD 127 & I-29 Interchange	293	32	9376	0	2370	68	70	
I-29 N	251.5	55-181-010	1.0 S of North Dakota State Line	130.17	40	5207	22.83	2038	84	*	
I-29 S	251.5	55-180-010	1.0 S of North Dakota State Line	130.17	40	5207	22.83	2038	84	*	
SD 10	359.66	55-093-190	0.7 W of Jct SD 10 & SD 127 N	86.5	56	4844	0	4012	115		
SD 10	361.77	55-116-190	SD 10 & I-29 Interchange	342.13	40	13685	19.58	2932	84		
SD 10	363.63	55-132-190	1.7 E of SD 10 & I-29 Interchange	142.06	40	5682	30	2315	84		
SD 106	334.32	55-068-060	3.2 W of Jct SD 106 & SD 127	119	30	3570	0				
SD 109	153.56	26-373-023	0.1 N of Jct US 12 & SD 109	204.5	34	6953	0	1405			
SD 127	214.9	55-101-181	0.9 N of Jct SD 10 & SD 127	83	30	2490	0				
SD 127	216.66	55-100-164	2.7 N of Jct SD 10 & SD 127 N	209	30	6270	0				
SD 127	246.61	55-290-047	4.7 S of North Dakota State Line	118.5	30	3555	0				
SD 13	127.08	06-320-198	0.8 S Jct US 14 & SD 13	76	30	2280	0				
SD 15	139.35	20-100-171	1.1 S of Jct SD 22 & SD 15	231	40	9240	0	1715	84		
SD 15	167.89	26-290-144	0.5 N of Jct SD 20 W & SD 15 N	36	30	1080	0				
SD 15	171.4	26-290-109	3.6 S of Jct US 12 & SD 15	94	30	2820	0				
SD 15	175.68	26-290-068	0.7 N of Jct US 12 & SD 15	106.21	40	4248	25	2137			
SD 15	178.68	26-290-038	3.6 N of Jct US 12 & SD 15	128.5	30	3855	0				
SD 15	180.98	26-290-014	6.0 N of Jct US 12 & SD 15	174.5	30	5235	0				
SD 15	197.34	55-195-360	1.4 E of Jct SD 15 & SD 123	151.5	30	4545	0				
SD 15	199.83	55-169-360	1.2 W of Jct SD 15 & SD 123	133.5	30	4005	0				
SD 15	206.62	55-100-367	SD 15 & I-29 Interchange	483.29	40	19332	51.9	4467		139	
SD 20	395.64	15-156-143	1.3 SE of Jct SD20 & N Lake Dr (Old SD 139)	186	52	9672	0				
SD 20	418.77	15-215-030	SD 20 & I-29 Interchange	293	44	12892	0	3212	92	92	

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

Attachment 1

TABLE OF BRIDGES

Route	MRM	Structure Number	Location	Structure Length (Ft)	Bridge Roadway Width (Ft)	Deck Area (SF)	Skew Angle	Approach Quantity (SF)	Approach Joint Quantity (LF)	Deck Joint Quantity (LF)	Count
SD 20	440.05	26-290-158	0.9 S of Jct SD20 W & SD 158	53.67	30	1610	0				
SD 20	440.8	26-290-165	1.6 S of Jct SD20 W & SD 158	56	30	1680	0				
SD 20	441.67	26-290-174	2.5 S of Jct SD20 W & SD 158	30	30	900	0				
SD 20	449.75	26-327-220	3.7 E of Jct SD 20 E & SD 15 S	83	30	2490	0				
SD 20	450.23	26-332-220	4.1 E of Jct SD 20 E & SD 15 S	67	30	2010	0				
SD 22	352	29-222-050	3.2 E of SD 22 E & Jct US 81 S	253.75	32	8120	0	1385	68	35	
SD 22	356.32	29-264-050	7.4 E of Jct SD 22 E & US 81 S	186	30	5580	0				
SD 22	371.19	20-105-160	0.6 E of Jct SD 22 & SD 15	117	30	3510	0				
SD 22	379.32	20-187-160	8.7 E of Jct SD 22 & SD 15	97.5	30	2925	0				*
SD 22	379.91	20-193-160	9.3 E of Jct SD 22 & SD 15	133.5	30	4005	0				*
SD 22	382.1	20-211-165	11.4 E of Jct SD 22 & SD 15	133.5	30	4005	0				*
SD 25	236.78	55-060-047	0.3 N of Jct SD 106 & SD 25	99.5	30	2985	0				
SD 28	332.91	29-099-150	3.7 W of Jct SD 28 & SD 21 N	67	30	2010	0				
SD 28	338.1	29-151-149	1.5 E of Jct SD 28 & SD 21 N	73.5	30	2205	0				
SD 28	345.23	29-213-140	3.3 E of Jct SD 28 E & US 81 N	93	30	2790	0				
SD 28	346.94	29-227-144	5.0 E of Jct SD 28 E & US 81 S	67	30	2010	0				
SD 28	353.53	29-277-160	2.3 W of Deuel County Line	163.5	30	4905	0				
SD 28	357.02	20-015-280	1.5 E of Hamlin County Line	104.5	36	3762	0	1551	76		
SD 28	361.61	20-061-280	SD 28 & I-29 Interchange	296	44	13024	8.36	2132		95	
SD 28	375.67	20-201-280	1.5 W of Minnesota State Line	94	30	2820	0				
SD 30	357.71	06-178-080	0.8 W of SD 30 & I-29 Interchange	117	30	3510	0				*
SD 30	358.53	06-185-080	SD 30 & I-29 Interchange	279	44	12276	0			94	
SD 30	361.95	06-219-080	3.4 E of SD 30 & I-29 Interchange	119	30	3570	0				*

TABLE OF BRIDGES

Route	MRM	Structure Number	Location	Structure Length (Ft)	Bridge Roadway Width (Ft)	Deck Area (SF)	Skew Angle	Approach Quantity (SF)	Approach Joint Quantity (LF)	Deck Joint Quantity (LF)	Count
SD 324	357.54	06-185-210	SD 324 & I-29 Interchange	254	30	7620	0			64	*
SD 324	357.88	06-189-211	0.4 E of SD 324 & I-29 Interchange	26.31	32	841.9	30	1987			
SD 324	358.37	06-193-211	0.8 E of SD324 & I-29 Interchange	209	32	6688	0	2370	68		
US 12	366.4	55-085-429	US 12 & I-29 Interchange	359.5	44	15818	36.66	2943	92		
US 12	388.27	26-282-072	0.9 W of Jct US 12 & SD 15	212.89	40	8516	30				
US 12	398.56	26-369-027	0.6 SW of Jct US 12 & SD 109	153	40	6120	0	1678	84		
US 12	399.66	26-379-024	0.6 E of Jct US 12 & SD 109	389.73	30	11692	30			89	
US 14	421.97	06-185-159	US 14 & I-29 Interchange	254	74	18796	0	3089	151		
US 14	422.54	06-194-160	0.9 E of US 14 & I-29 Interchange	73.5	44	3234	0				
US 14	423.53	06-201-160	1.6 E of US 14 & I-29 Interchange	106	44	4664	0				
US 14	423.85	06-204-160	1.9 E of US 14 & I-29 Interchange	106	44	4664	0				
US 14 B	419.47	06-166-150	2.0 W of US 14B & I-29 Interchange	112.5	44	4950	0	1881	92		*
US 14 B	419.85	06-169-150	1.6 W of US 14 B & I-29 Interchange	67	84	5628	0	3521			*
US 14 B	421.34	06-185-150	US 14 Bypass & I-29 Interchange	254	30	7620	0	1305		33	
US 14 B	422.86	06-196-156	1.4 E of US 14 & I-29 Interchange	73.5	44	3234	0	1881	92		*
US 14 E	414.6	06-116-151	1.7 E of Volga	99.63	40	3985	20	2838	84		
US 14 E	415.13	06-119-151	1.9 E of Volga	698.5	40	27940	0	2052	84	214	*
US 14 E	415.31	06-124-151	2.4 E of Volga	99.5	40	3980	0	2932	84		
US 14 E	415.45	06-126-151	2.5 E of Volga	99.63	40	3985	20	2795	84		
US 14 E	416.84	06-139-151	3.9 E of Volga	186.31	40	7452	30	2985	84		
US 14 E	417.08	06-141-151	4.1 E of Volga	73.5	40	2940	0	2324	84		
US 14 E	418.4	06-154-153	0.2 SE of Jct US 14 & US 14 Bypass	99.5	38	3781	0	1635	80		
US 14 E	419.11	06-158-158	1.0 SE of Jct US 14 & US 14 Bypass	119	38	4522	0	1635	80		

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

BRIDGE CLEANING

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

Attachment 1

TABLE OF BRIDGES

Route	MRM	Structure Number	Location	Structure Length (Ft)	Bridge Roadway Width (Ft)	Deck Area (SF)	Skew Angle	Approach Quantity (SF)	Approach Joint Quantity (LF)	Deck Joint Quantity (LF)
US 14 W	414.6	06-116-150	1.7 E of Volga	99.63	40	3985	20	1944	84	
US 14 W	415.13	06-119-150	1.9 E of Volga	699	40	27960	0	1675	84	*
US 14 W	415.31	06-124-150	2.4 E of Volga	99.5	40	3980	0	1715	84	
US 14 W	415.45	06-126-150	2.5 E of Volga	99.63	40	3985	20	1937	84	
US 14 W	416.84	06-139-150	3.9 E of Volga	186.31	40	7452	30	2315	84	
US 14 W	417.08	06-141-150	4.1 E of Volga	73.5	40	2940	0	1715	84	
US 14 W	418.23	06-154-150	1.0 N & 1.6 W of Brookings	373	38	14174	44	2840	80	
US 14 W	418.44	06-155-153	0.2 SE of Jct US 14 & US 14 Bypass	99.5	38	3781	0	1635	80	
US 14 W	419.15	06-159-158	1.0 SE of Jct US 14 & US 14 Bypass	119	38	4522	0	1635	80	
US 212	410.27	20-194-030	1.6 W of Minnesota State Line	86.5	44	3806	0			
US 81	155.4	15-190-186	0.7 S of Jct US 212 & US 81	119.31	66	7874	30	5104	138	
US 81	161.64	15-215-150	3.0 N of US 212 & I-29 Interchange	290.5	44	12782	0	1881		92

BRIDGE CLEANING

Attachment 2
(Example)

BROOKINGS, CODINGTON, DEUEL, GRANT, HAMLIN, MOODY, AND ROBERTS COUNTIES

RECORD OF BRIDGE CLEANING

ROUTE	MRM	STR. NO.	Arrival Date and Time	Time Sweeping Started	Time Sweeping Ended	Departure Time
<i>(Example entry)</i>						
SD 28	123.57	12-224-558	4/6/18	4:05 PM	4:30 PM	4:40 PM
			3:35 PM			
<i>(Example entry when doing multiple bridges on divided highway)</i>						
I-29 N B & SB	Exit 140 to Exit 150	6 bridges total	4/10/18	8:20 AM	10:30 AM	10:45 AM
			7:50am			
Contractor Signature				Date		